

# ABSTRACT

An optical system and optical apparatus prevent degradation of the S/N ratio due to switching between OCT and OCM observation modes and attain a high S/N ratio in both the observation modes. The optical system includes a light source 1 and a light-branching member 2 for branching light from the light source 1 into a reference light path and a signal light path. An objective 3 is placed in the signal light path. A light-scanning system 5 scans light in the signal light path with respect to a sample 4 placed in the signal light path. A beam diameter changing optical system 6 changes the beam diameter of light entering or exiting the light-scanning system 5. A light-combining member 7 combines together the reference light path and the signal light path. A light-detecting element 8 detects light combined by the light-combining member 7.